

May/June, 1980

LASCA LEAVES



Los Angeles County Department of Arboreta and Botanic Gardens



LuAnn B. Munns

*The 100-foot-tall coast redwood (*Sequoia sempervirens*) that Lucky Baldwin planted 104 years ago narrowly missed the Coach Barn at the Arboretum when it toppled during a windstorm on Feb. 7.*

UNUSUALLY SEVERE winter storms last February buffeted plant collections and caused damage to the grounds at the Los Angeles State and County Arboretum, South

Coast Botanic Garden, and Descanso Gardens.

Gale force winds over 60 miles per hour struck the Arboretum the night of Feb. 7, destroying about

100 trees, among them the 104-year-old coast redwood (*Sequoia sempervirens*) Lucky Baldwin planted by the Coach Barn to commemorate the birth of his daughter, Anita. In the

Australian section, 53 large eucalyptus trees were blown down. Several were unusual specimens that had not been classified by Arboretum taxonomists who were waiting for the trees to produce flowers and seeds before making positive identification. The Arboretum also lost five trees in the Biblical garden on Tallac Knoll — two cedars of Lebanon (*Cedrus libani*) that had withstood the storms of the previous quarter century and three gopherwood trees (*Cupressus sempervirens*) which, according to the Bible, supplied wood for construction of Noah's ark.

The rain began Feb. 13 while the Department work force and the California Conservation Corps crews were still removing debris and repairing damage caused by the winds. By the time it stopped nine days later, 17.8 inches had fallen at the Arboretum, 9.89 inches at South Coast Botanic Garden, and 16.09 inches at Descanso Gardens, making February, 1980, the wettest February since record keeping began in the area.

Descanso Gardens was forced to close its gates to the public on Feb.

19 after 1.62 to 3.01 inches of rain fell each day for six successive days. During this deluge the large elm by the Hospitality House toppled as did 11 oaks in the camellia forest.

Runoff from the 2.38 inches of rain that fell at South Coast Botanic Garden on Feb. 16 cut a ditch about 12 feet deep and 20 feet long beside the tram road along the south property line. When the water reached the stream, it deposited heavy silt and washed the five-ton bridge about 250 feet downstream. By that evening the water was running three feet deep over the outfall of the lake.

The series of seven rainstorms that dumped the heavy precipitation on southern California did not cause any major damage at the Arboretum. Although 12.34 inches of rain fell during a four-day period from Feb. 14 through Feb. 17, the Arboretum rode out the rain with only some surface erosion. The Meadowbrook stream and the waterfall were closed for 15 days, however, while crews removed silt and windborne debris deposited into the water by the storms.

4th OF JULY WESTERN AMERICA FESTIVAL

A WEEKEND OF music, dance, and alfresco dining at the Los Angeles State and County Arboretum will commemorate America's 204th birthday. Starting with a picnic basket supper on July 3, "The West — America's Fantasy" will feature four days of celebration. Proceeds from the event are earmarked for the new Hall of Environmental Education now in the final planning stage.

Highlight of the festival is a premiere performance of "The Old Fashioned Picnic" by the Burch Mann American Folk Ballet on July 3. This ballet was written especially for the event. The American Folk Ballet is a totally new concept in dance theatre, the only company in the world created directly from the folklore history of America.

"I have tried to create an art form dealing with basic human emotions that all can understand to reveal real people: our laughing, crying, exuberant ancestors who hammered a nation out of a wilderness," said Burch Mann, director and choreographer.

The festival, first in the history of the Arboretum, is sponsored by the California Arboretum Foundation and organized by Richard Ray. The California Arts Council provided part of the funds for the dance festival. Details on the festival will be mailed to Foundation members.

Visitors to the Arboretum over the long weekend will also be able to enjoy the Cactus and Succulent Show held in the Lecture Hall from 9 a.m. to 4:30 p.m., July 4, 5, and 6.

LOVELL SWISHER

WHEN Lovell Swisher died Feb. 4 at age 93, the Department lost a friend whose involvement predated the existence of the Los Angeles State and County Arboretum. As the respected general manager and vice-president of the Men's Garden Club which he helped establish in 1950, Mr. Swisher was instrumental in gaining support on a governmental level for the Los Angeles State and County Arboretum during its early years as well as in recent years. He served as a member of the Board of Trustees of the California Arboretum Foundation for nine years and was later named an honorary trustee.

Mr. Swisher also served on the



Lovell Swisher

advisory committee for the design of the Los Angeles Civic Center Mall.

With his horticultural experiments Mr. Swisher made other contributions to Los Angeles County, including several horticultural innovations. He was the first man in Los Angeles to succeed in pollinating the bird of paradise (*Strelitzia reginae*), the first to grow Chinese ground orchids (*Bletilla*) and the purple orchid (*Bletia*) in commercial quantities, and the second person to grow cymbidium orchids outdoors in this area.

His wife of 66 years, Lucy Cleve-

land Swisher; son, William; daughter, Elizabeth Wilson; two granddaughters; and a great-granddaughter survive him.

SOUTH COAST DEVELOPMENTS

CONSTRUCTION SHOULD start this month on two new structures, a gift shop and a shade garden, at South Coast Botanic Garden. Architects Hendrickson and Knox who designed the original Administration complex drew up the plans for modifying part of the adjoining overhead structure into a gift shop. By utilizing the existing roof and columns they were able to enclose the 14x34-foot area using only the \$25,000 given by Atlantic Richfield for the gift shop. The new shop will provide the Foundation members with display shelves and counters and storage cupboards to accommodate the handcrafted items they have been selling in the Lecture Hall for the past several years.

Plans for the shade garden consist of a polypropylene fabric shelter over a support system that will allow the structure to conform to ground settling while retaining its integrity. The garden will include a small water feature and shade plants that are particularly well adapted to the local coastal climate.

Armand Sarinana, superintendent, and Paul Skinner, South Coast Foundation development chairman, pointed out that the location of the shade garden near the tram waiting area will enhance the first impression of the Garden on visitors. It is another step in the development of the area near the public entrance.

Los Serranos, a local civic group, contributed \$6,000 for building materials in memory of Cliff Graham who, at the time of his death, was president of the club and past president of the Foundation. Construction will be done by California Conservation Corps crews based at Ft. MacArthur.



Descanso Gardens Guild president, Randy (Mrs. Edward) McDonald, left, and Building Fund chairman, Georgie (Mrs. Harry J.) Van de Kamp, right, examine working plans for the Education and Exhibition Building with architect, Barry Berkus. The Guild raised almost \$1 million in less than two years for the building, their first capital fund raising project.



The Executive Committee of the Herb Society of America were guests of the Society's Southern California Unit at a reception in the Herb Garden Feb. 28 given by the Los Angeles State and County Arboretum.

ARBOR DAY

THIS YEAR, as it has for the past eight years, the Department of Arboreta and Botanic Gardens distributed five-gallon size trees to Los Angeles County schools to help the students celebrate Arbor Day, March 7. The tree of the year for 1980 was *Callistemon* 'Red Cascade,' a weeping bottlebrush that was first introduced to the nursery trade by the Los Angeles State and County Arboretum in 1976. Packets of educational material for use in Arbor Day programs accompanied the 966 trees that were given out the last week of February. Members of Las Voluntarias assembled the packets containing information on the history of Arbor Day, nature project ideas, energy conservation suggestions, a coloring sheet illustrating a food chain, and a crossword puzzle of tree names. Teachers were encouraged to adapt whatever parts of the packet fit their particular classroom situations.

Over the years many teachers have commented on the enthusiasm

shown by their students at the time of the tree planting ceremony, but none had offered subsequent information on any long-term benefits for the schools or students.

Then last spring an envelope arrived at the Department containing letters of thanks from students and a brief cover letter from Mrs. Martha Schneidewind, an English teacher at West Covina High School. She wrote that she had requested a tree each Arbor Day since 1972, the year after the Department began giving a single large tree to each school instead of many seedling trees to students. Seven of the trees, beginning with the *Liquidambar styraciflua* in 1972 and on through the *Cassia leptophylla* and the *Chorisia speciosa*, have been planted by her classes with full Arbor Day ceremonies. Her suggestion that we inspect the trees on the West Covina campus was quickly accepted. Five of the trees are flourishing, most notably the pioneering liquidambar which, despite early vandalism, is now 25 feet tall. The *Cassia leptophylla*,

planted for Arbor Day in 1975 when it had a thumb-sized trunk and eight leaves, now spreads a leafy canopy about 15' in diameter.

Although trees on school campuses face many hazards from casual twig pullers to careening lawnmowers, only two trees planted over the seven years succumbed.

If Mrs. Schneidewind's experience is typical, the gift trees have contributed beauty to many campuses in Los Angeles County. The next question is whether or not the students who participated in planting the trees gained a greater understanding and appreciation of the importance of trees in a city. Here, too, the answer seems to be affirmative.

"Students who take part in the ceremony really develop a sincere interest in Arbor Day," Mrs. Schneidewind said. "They even come back years later to check on 'their' trees." This reassuring response indicates exactly the personal involvement with the urban forest that the Department's tree distribution program was designed to foster.



Students at West Covina High School check the health and size of the gold medallion tree (*Cassia leptophylla*) given to the school by the Los Angeles State and County Arboretum for Arbor Day 1975.

LuAnn B. Munns

By Gary Cromwell

BIRCHES: Fabled Trees of the North



*"I'd like to go by climbing a birch tree,
And climb black branches up a
snow-white trunk
Toward heaven, till the tree could
bear no more,
But dipped its top and set me down
again . . ."*

— Robert Frost, *Birches* (1915)

Betula, the generic name for birches is derived from the Latin language. Its first recorded use in association with birch plants was by Plinius Secundus, a Roman naturalist of the first century A.D. During the 18th century, the Swedish botanist, Carolus Linnaeus, adopted it as the official botanical name for birch in his classification system.

Birch trees were well known to the ancients. Birch bark was used as writing paper by the Etruscans and Romans as early as 700 B.C., and the trees are mentioned in both pagan and Christian legend. It is said that the Romans used switches of a dwarf birch to whip Jesus at His trials; according to folklore, that birch has since remained stunted in shame. Russian legends ascribe magical qualities to certain birch trees native to eastern Asia.

The birches are probably more familiar and aesthetically pleasing than any other modern deciduous trees. Their slender drooping branches, toothed leaves, characteristic bark, and changing seasonal appearance conjure up happy childhood memories for those born in northern latitudes.

Birches are best known for their bark. One usually thinks of birch



The dark lower trunks and whitish upper trunks of this Betula pendula cv. lobulata specimen are common characteristics among some older birch trees. Birches grow well near water.

bark as chalky white, with large horizontal lenticels and a tendency for the bark to peel off in thin papery flakes or sheets. In fact, bark color ranges from silvery or white to gray, yellowish, orange, reddish, purplish, dark brown, or black. Although young trees tend to have darker bark, older ones may be dark only at the trunk base. Additionally, only about half of the known species shed bark in flakes or sheets. The others have rough or fissured bark without apparent peeling patterns. Small branches may have red, yellow, or brown bark, and these may have fine hairs or resinous glands; many mature birch trees have smooth branches. At least one species, the cherry birch (*B. lenta*), has aromatic, flavorful bark when young.

Birches form the type genus of the family Betulaceae. They are relatives of such trees as alder (*Alnus*), hazelnut (*Corylus*), and hornbeam (*Carpinus*). The 40 to 60 species are native to north temperate regions of North America, Europe, and Asia. Graceful, short-lived birch trees or shrubs also are found on Greenland, north into the Arctic region, and south into the Himalayas in Asia. They vary from the low, spreading shrub *Betula nana*, of northern Europe and Asia to Alaska, to the magnificent *B. albosinensis*, which reaches 100 feet high in its native China.

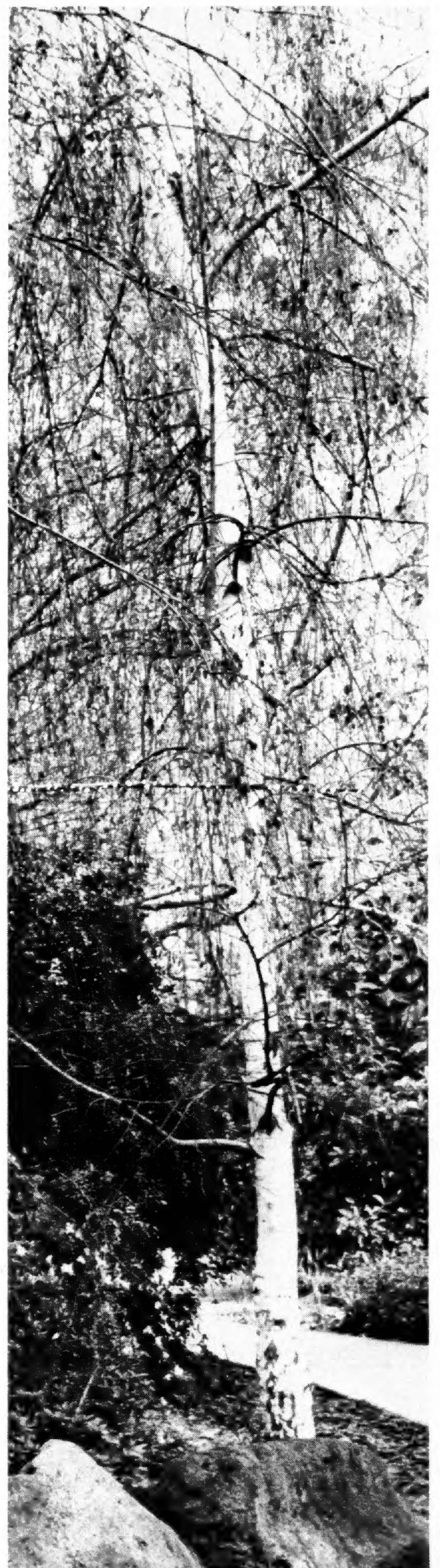
Because the flowers of birch family members are borne in catkins or aments (tassel-like or cone-like structures usually containing small unisexual flowers), botanists have considered them as part of the group Amentiferae, along with such trees as beech (*Fagus*), willow (*Salix*), walnut (*Juglans*), and oak (*Quercus*). Like many other catkin-bearing dicotyledonous taxa, birches seem ideally suited for wind pollination. Many have pendulous catkins with simple flowers lacking showy parts, profuse development of lightweight pollen grains, and

stigmas which become receptive to pollen before it is released from the anthers.

Birches are monoecious, but the male and female flowers occur separately in their respective catkins. Cymules of three male flowers each are borne along the elongated catkin axis. Each cymule has a single bract and one or two small bractlets, and each flower has a tiny four-parted calyx and two stamens. Male catkins develop in autumn and remain solitary or clustered on the trees during winter. The shorter cylindrical female catkins are made up of many units of three flowers each; each unit has a three-lobed bract but no calyx. Flower ovaries are sessile, with a branched style. The flowers open in spring, followed by seed and fruit formation in late spring or summer. The small compressed fruit, called a nutlet, has tiny membranous marginal wings. After fruit development, the female catkins disintegrate and the nutlets are shed into the wind.

Birch leaves are alternate and petioled, but other features vary among the species. Leaves are orbicular to ovate with pointed tips and heart-shaped to tapering or blunt bases. Leaf edges may have many fine to large teeth, or they may be lobed. Leaf upper surfaces range from bright or dark green to bluish-green, while the lower surfaces are from yellowish-green to pale green or nearly white. Either one or both leaf surfaces may have a light hairy covering or may be glabrous when mature. Leaves are shed in the fall, and the leafless branches typically bear only naked catkins during cold months.

Mankind's utilization of birch products is centuries old. Peoples of Asia, Europe, and North America have used the bark, wood, and leaves for famine food, medicines, cosmetics, footwear, house coverings, furniture, tea substitutes, sugar sources, alcoholic beverage bases,



Birch trees, such as this 20-year-old white birch (*Betula pendula*), are beautiful in any home garden. Note the graceful drooping branches of this species.

writing materials, household utensils, wood pulp, and fuel.

The Ainu people of Japan once employed the bark of Erman's birch (*B. ermanii*) for treating wounds and skin inflammations. The Ainu used bark of the Japanese white birch (*B. platyphylla* var. *japonica*) for utensils and torches, while the wood was made into furniture and pipes by other Japanese.

Betula pubescens, the European or sweet birch, has supplied wood in Greenland, Europe, and Asia for use in vehicles, lathe work, utensils, nails, and snowshoes. Unpeeled stem sections are used in bridges and rustic outdoor furniture, and the sap sometimes is refined as a hair treatment lotion. Edible sugar is condensed from the sap in parts of Scandinavia and Scotland.

One of the white birches, *B. pendula* and its varieties, grows in northern Europe, the Caucasus, east-

ern Asia, and North America. Its economic uses are extensive: its wood was used for spoons, pipes, nails, and shoes, while the bark was made into baskets, mats, clothes, tobacco boxes, and roofing materials. People of the Kamchatka Peninsula in Siberia eat a mixture of the powdered bark and caviar. Above the Arctic Circle in Lapland, and Finland, the wood sawdust is cooked and mixed with wheat flour or the inner bark is ground into meal for famine bread. Northern Europeans have made a tea from its leaves, as have the Indians of Maine. Alaskan Indians mix the finely chopped wood with tobacco for smoking. People today in Maine sometimes make vinegar from the sap, and in England, the sap is fermented into wine. White birch tar has provided a leather and wood preservative, the leaves a yellow or green dye. Soot was used in black paint, and medicines were distilled from the trees by the Poles, Finns, and Russians.

Indian tribes of the northeastern and Great Lakes regions of pre-Columbian America, such as the Huron and the Ojibwa, often used the bark of the paper or canoe birch (*B. papyrifera*) to make strong, light canoes. They also taught immigrant European woodsmen the laborious art of making these excellent water conveyances, a fact which helped to change the course of early American history. The resinous bark, because it is so durable and impervious to water, was sewn together with roots of tamarack (*Larix laricina*), stretched over a wooden frame, and caulked with pine resin. Paper birch bark was also made by American Indians into rolled tapers for repelling mosquitoes. Other products include wooden snowshoe frames, baskets, drinking cups, bags and boxes, and moose-calling horns fashioned from the rolled bark. Both Indians and European settlers also once used

birch bark as lodge coverings over wooden frameworks, or as waterproof linings beneath cedar shingles on cabin roofs. Wigwam, an Algonquian word well-entrenched in American literature, is a name associated with birch bark lodges for more than 300 years.

Four eastern North American species are the gray birch (*B. populifolia*), cherry birch (*B. lenta*), yellow birch (*B. alleghaniensis*), and the river birch (*B. nigra*). All were used for furniture, woodenware, cabinets, farm tools, wood pulp, charcoal, and fuel. Additionally, *Betula lenta* has provided shipbuilding materials, and its sap has been the main ingredient of birch beer. During the American Civil War, starving troops of the Confederacy were known to eat its bark. The cherry birch also is the commercial source of oil of sweet birch, sometimes incorrectly called oil of wintergreen. The two oils have similar properties, but true oil of wintergreen is derived from the teaberry (*Gaultheria procumbens*). Oil of sweet birch is more abundant and thus was used as oil of wintergreen to flavor medicines. Today, oil of wintergreen is synthesized from wood alcohol and salicylic acid.

Nearly half of the known birch species are grown at the Los Angeles State and County Arboretum. Most of the specimens are grouped on the east side of the Demonstration Home Gardens, around the upper lake, and in the northernmost part of the Meadowbrook section. The soil adjacent to the lake is moist during much of the year and temperatures frequently are cooler because of the proximity of open water. One may also view more than 20 specimens of *Betula pendula*, from 10 to 20 feet in height, in the Herb Garden area.

Around the banks of the upper lake are three dozen fine specimens of mixed birch species. A visitor can easily spend a few days examin-



Betula turkestanica from central Asia has the dark horizontal lenticels for air exchange and chalky-white papery bark common to many birch species. The large dark areas are branch scars. Photos by Gary Cromwell.

ing these beautiful trees, which include some of the most extraordinary species in any botanic garden of the western United States. Additional specimens are growing just north of the upper lake. On the south edge of the lake, there are two 20-foot examples of *Betula forestii*, two 10-foot canoe birches, eight 14-foot *B. pendula* trees, and two 25-foot specimens each of *B. platyphylla* and *B. turkestanica*. On gentle slopes at the west end of the lake are 10 to 30-foot examples of *Betula alleghaniensis*; *B. davurica*; *B. platyphylla* var. *kamtschatica*, originally from Russia; and the monarch birch, *B. maximowicziana*. The Meadowbrook plantings across the road next to the ponds also include specimens of *B. ermanii* and *B. pendula*.

Some of the oldest birch plantings in the Arboretum occur on the northwest side of the upper lake and along the unpaved road next to it. Two 30-foot silvery-white canoe birches (*B. papyrifera* var. *commutata*) stand high on the lake bank, surrounded by thick clumps of horsetails (*Equisetum*). Nearby are tall specimens of a Himalayan birch, *B. jacquemontii*, and of *B. pendula* cv. "Tristis". To the northeast among lush shrubbery stand

15 to 30-foot specimens of *B. platyphylla*, with silvery-gray bark peeling off in thin soft horizontal bands. Also on the north side of the upper lake are two 20 to 30-foot examples of a Chinese birch, *B. platyphylla* var. *szechuanica*, and two 15 to 20-foot specimens of *B. turkestanica* from Asia Minor. North of the upper lake and west of the Youth Education buildings are two plantings of the magnificent *B. utilis*, each 25 feet tall; a 15-foot *B. kirghisorum*, with its silvery-yellowish bark and small dark lenticels; a 15-foot swamp birch, *B. pumila*; and a lovely 30-foot river birch, *B. nigra*, with reddish-golden bark.

Birches are cultivated as ornamentals in many parts of the world where the environment is suitable. The plants thrive in boggy or moist sandy soil, but some species will tolerate drier areas or regions where water is locked up as ice for part of the year. They grow in full sun or partial shade. Propagation is by seeds sown at maturity or following stratification (placing seeds in alternate layers with sand, soil, and peat moss in constantly moist shaded flats and chilling). One-year-old seedlings should be transplanted. Birches also are propagated by layering, grafting or budding on seed-

ling stock, and by greenwood cuttings under glass.

Betula species may suffer from a number of minor leaf diseases. Additionally, wood-decaying pathogens may attack older trees. The bronze birch borer is known to kill the tree tops by tunneling under the bark, or a fungus species may create European canker, where concentric dead callus rings are formed. Defoliation is caused by the European birch sawfly, leaf miner insects, or the birch leaf skeletonizer.

Birches are beautiful examples of the dark, moisture-loving forest species of the north. They are commonly cultivated as street and lawn trees in many California cities. Anyone who selects birch specimens for the garden, as complements to dark-foliage shrubs, as backdrop accents, or for general landscaping will be delighted with the choice. The willing home gardener might plant birches closely together as in nature. This colonnade-like effect of white trunks and the striking golden fall color of the leaves will be a rich reward.

Gary Cromwell is a biologist, ethnobotanist, and taxonomist in the Department's Research division.

LOS ANGELES STATE AND COUNTY ARBORETUM, Arcadia

MAY 4 — 9 a.m. to 4:30 p.m.

Baldwin Bonanza, a plant sale*

MAY 11 — 2 p.m.

Sunday Afternoon Talk*

"Food Plants of California Indians"

Gary Cromwell, Arboretum biologist

MAY 18 — 9 a.m. to 4:30 p.m.

Epiphyllum Show

Epiphyllum Society of America**

MAY 24, 25, 26 — 9 a.m. to 4:30 p.m.

Bonsai Show

Santa Anita Bonsai Society**

MAY 31, JUNE 1 — 9 a.m. to 4:30 p.m.

Satsuki Azalea Show

Satsuki Azalea Society**

JUNE 14, 15 — 9 a.m. to 4:30 p.m.

Hemerocallis Show

Southern California Hemerocallis and Amaryllis Society**

JUNE 21, 22 — 9 a.m. to 4:30 p.m.

Gladiolus Show

Southern California Gladiolus Society**

CALENDAR

MAY, JUNE, JULY

JUNE 22 — 10 a.m.

Sunday Morning Walk*

Australian Section

Dr. Gary Wallace, Arboretum botanist

JULY 4, 5, 6 — 9 a.m. to 4:30 p.m.

Cactus and Succulent Show

Cactus and Succulent Society of America**

JULY 19, 20 — 9 a.m. to 4:30 p.m.

Fern Show

Los Angeles International

Fern Society**

*Sponsored by California Arboretum Foundation

**Co-sponsored by California Arboretum Foundation

DESCANSO GARDENS, La Canada

JUNE 1 — 11 a.m. to 4:30 p.m.

Arts & Crafts Festival

Verdugo Hills Art Association**

JUNE 15 — 10 a.m.

Sunday Morning Walk*

Rose Garden

George Lewis, Descanso superintendent

*Sponsored by Descanso Gardens Guild

**Co-sponsored by Descanso Gardens Guild

SOUTH COAST BOTANIC GARDEN, Palos Verdes Peninsula

MAY 17, 18 — 9 a.m. to 4:30 p.m.

Fiesta de Flores, a plant sale*

JUNE 1 — 2 p.m.

Sunday Afternoon Talk*

"A Trip Through English Gardens"

Ida Drapkin, Lecturer and Teacher

JUNE 7, 8 — 10 a.m. to 4:30 p.m.

Cactus and Succulent Show

South Coast Cactus and Succulent Society**

*Sponsored by South Coast Botanic Garden Foundation

**Co-sponsored by South Coast Botanic Garden Foundation